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Arizona Corporation Commission

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Attorneys for Western Resource Advocates  
and Environmental Defense Fund

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**BEFORE THE ARIZONA CORPORATION COMMISSION**

GARY PIERCE, CHAIRMAN  
BOB STUMP  
SANDRA D. KENNEDY  
PAUL NEWMAN  
BRENDA BURNS

IN THE MATTER OF THE APPLICATION OF  
ARIZONA PUBLIC SERVICE COMPANY FOR  
AUTHORIZATION FOR THE PURCHASE OF  
GENERATING ASSETS FROM SOUTHERN  
CALIFORNIA EDISON AND FOR AN  
ACCOUNTING ORDER.

Docket No. E-01345A-10-0474

**POST-HEARING BRIEF OF  
WESTERN RESOURCE ADVOCATES  
AND ENVIRONMENTAL DEFENSE  
FUND**

Western Resource Advocates and Environmental Defense Fund submit the following  
Post-Hearing Brief.

**I. THE COMMISSION SHOULD APPROVE APS' PROPOSED ACQUISITION OF  
SOUTHERN CALIFORNIA EDISON'S SHARE OF FOUR CORNERS UNITS 4  
AND 5**

Western Resource Advocates (WRA) and Environmental Defense Fund (EDF)  
recommend that the Commission approve Arizona Public Service Company's (APS') request for  
authorization of its acquisition of Southern California' Edison's (SCE's) share of Four Corners  
Units 4 and 5, but only to the extent the Commission also requires retirement of Four Corners  
Units 1-3 by December 31, 2013. APS' proposed transaction with SCE brings considerable

1 environmental benefit, but much of that benefit lies in the early retirement of the old, relatively  
2 inefficient and costly Four Corners Units 1-3.

3 **II. APS' PROPOSAL TO ACQUIRE SOUTHERN CALIFORNIA EDISON'S SHARE**  
4 **OF FOUR CORNERS UNITS 4 AND 5 AND TO RETIRE FOUR CORNERS**  
5 **UNITS 1-3 PRODUCES LARGE BENEFITS FOR CUSTOMERS AND FOR**  
6 **ARIZONA**

7 APS currently owns 100% of Four Corners Units 1, 2, and 3 (560 MW) plus a 230 MW  
8 share of Units 4 and 5. APS proposes to acquire SCE's share of Four Corners Units 4 and 5 and  
9 add pollution control equipment to Units 4 and 5 by 2018 to reduce nitrogen oxide emissions.  
10 As part of its application, APS also proposes to retire Four Corners Units 1, 2, and 3 by 2013  
11 (Dinkel Direct Testimony, Attachment PD-1). These three units were built in 1963 and 1964, are  
12 relatively inefficient, and emit large quantities of sulfur dioxide, nitrogen oxides, carbon dioxide,  
13 and mercury.

14 APS' proposal presents the Commission, APS' customers, and Arizona with two large  
15 benefits:

16 **A. Major Environmental Improvements with Significant Benefit to Human**  
17 **Health**

18 As a result of retiring Four Corners Units 1-3 and installing emission controls on Four  
19 Corners Units 4 and 5, air emissions and water consumption decline dramatically. Relative to  
20 2009 operation of the Four Corners Power Plant, carbon dioxide emissions would decline by  
21 between 19% and 34%, sulfur dioxide emissions would decline by about 25%, nitrogen oxide  
22 emissions would decline by about 88%, mercury emissions would decline by at least 61%, and  
23 water consumption would decline by between 18% and 30%. These changes will result in  
24 improved visibility, reduced health impacts of power generation, and reductions of greenhouse  
25 gases that contribute to climate change (Berry Direct Testimony at 3-5, and Exhibit DB-2). The

1 expected health benefits associated with retirement of Units 1-3 and deployment of emission  
2 controls on Units 4 and 5 include: a) reduced exposure to ozone, which causes respiratory and  
3 cardiac distress and contributes to premature deaths, b) reduced exposure to fine particulate  
4 matter which increases the risk of premature death, and c) a significant reduction in exposure to  
5 mercury, a potent neurotoxin that damages the brain and nervous system of newborn babies and  
6 young children. (Polkowsky Direct Testimony at 7-8). Reduced pollutant emissions will also  
7 improve the visibility at Mesa Verde National Park, Grand Canyon National Park, and twelve  
8 other parks and wilderness areas in the Four Corners region. (Polkowsky Direct Testimony at 9).

9 **B. Lower Cost than Alternatives Under a Range of Reasonable Assumptions**  
10 **about Uncertain Future Market and Regulatory Conditions**

11 WRA conducted its own independent cost analysis comparing the incremental life-cycle  
12 costs of APS' proposal to the incremental life-cycle costs of three alternatives: a) continuing to  
13 operate Four Corners Units 1-3; b) replacing Four Corners Units 1-3 with gas-fired generation  
14 from the competitive market; and c) replacing Four Corners Units 1-3 with a portfolio of natural  
15 gas-fired generation and renewable energy. APS' proposal has the lowest incremental life-cycle  
16 cost of all the options considered under a range of reasonable assumptions (Berry Direct  
17 Testimony at 5-8 and Exhibit DB-3). WRA's analysis includes the costs of complying with  
18 various environmental regulations pertaining to nitrogen oxide emissions, mercury emissions,  
19 handling and storage of coal combustion residuals, and mine reclamation. It also includes  
20 scenarios with varying costs of complying with future carbon dioxide emission regulations.  
21 However, the analysis does not include monetization of environmental externalities that is  
22 intended to estimate the economic value of damages caused by pollution.  
23  
24  
25

1 **III. THE PROPOSED TRANSACTION IS A PACKAGE DEAL THAT SHOULD NOT**  
2 **BE BROKEN APART**

3 Acquisition of SCE's share of Units 4 and 5 without the nearly simultaneous retirement  
4 of Units 1-3 could greatly diminish or destroy the benefits of APS' proposal. APS represented  
5 the transaction to both the Commission and the Environmental Protection Agency as a package  
6 deal and we regard the acquisition of SCE's share of Four Corners Units 4 and 5 and the early  
7 retirement of Four Corners Units 1-3 as a package.

8 It has been suggested that the Commission should treat the retirement of Units 1 -3 and  
9 the acquisition of Units 4 and 5 as if they were independent of each other. The Arizona  
10 Competitive Power Alliance takes that position based on its assumption that APS will retire  
11 Units 1 -3 regardless of whether the acquisition of Units 4 and 5 is approved (Patterson Direct  
12 Testimony at 12-13). That assumption is based upon EPA regulations that will impose  
13 significant costs on APS to retrofit Units 1 - 3 to meet the requirements of the Clean Air Act.  
14 However, there is no evidence in the record to suggest that APS will retire Units 1 -3 early  
15 absent a Commission order approving the acquisition of Units 4 and 5 as proposed by APS.

16 APS testified that Units 1 - 3 are reliable and economical resources that serve its  
17 customers well. Transcript, Vol. III at 385. For APS, the early retirement of Units 1-3 only  
18 makes sense in conjunction with the acquisition of Units 4 and 5. *Id.* Indeed, APS' request to  
19 EPA for flexibility with regard to pollution controls on Units 4 and 5 was contingent upon the  
20 early retirement of Units 1 -3. Patrick Dinkel of APS testified that the trade off would be to put  
21 Selective Catalytic Reduction (SCR) on Units 4 and 5 later than under the initial proposal by  
22 EPA because APS would be closing Units 1, 2 and 3. Delaying the installation of the SCR on  
23 Units 4 and 5 saves APS customers money. According to Mr. Dinkel, that's the flexibility APS  
24 has with EPA under the combined proposal. "Otherwise, you have to just comply with the  
25

1 regulation or shut the plant down.” Transcript, Vol. III at 787-788. The proposal to EPA was  
2 that if APS agreed to close Units 1, 2 and 3 early, EPA would agree to give APS more time to  
3 comply with installing the SCR’s on Units 4 and 5. In the absence of that agreement, EPA’s  
4 original timetable for compliance at Four Corners would apply. Transcript, Vol. III at 788.

5 In any event, the health, environmental and economic benefits associated with this  
6 transaction and the early retirement of Units 1 – 3 are far too large to jeopardize based on an  
7 unfounded assumption that APS would voluntarily retire those Units early separate and apart  
8 from the transaction it has proposed for approval to the Commission. There is simply no  
9 evidence to believe that Units 1 – 3 would be retired early regardless of the outcome of this  
10 proceeding. In fact quite the opposite is true. There is currently no reason to believe that APS  
11 would not make the necessary improvements to Units 1 – 3 and continue to operate them into the  
12 future if the Commission did not approve APS’ application. That result would be far worse than  
13 APS’ proposal and should not be risked by an analysis that fails to take into account the entire  
14 transaction.  
15

#### 16 **IV. APS HAS MET THE REQUIREMENTS FOR COMMISSION APPROVAL OF** 17 **ITS ACQUISITION OF SCE’S SHARE OF FOUR CORNERS UNITS 4 AND 5**

18 APS has met the requirements of Decision No. 67744 regarding the “self-build moratorium.”  
19 Under the provisions of the 2005 Settlement Agreement (paragraphs 74 -77), as modified by  
20 page 25 of Decision No. 67744, APS must obtain Commission approval to acquire SCE’s share  
21 of Four Corners Units 4 and 5. In particular, APS must address several factors as part of any  
22 request for Commission authorization to self-build generation prior to 2015 as listed below:

- 23 • **The Company’s specific unmet needs for additional long-term resources.** APS will  
24 need additional long-term resources as it retires Four Corners Units 1-3 (Berry Direct  
25 Testimony at 8-9).

- 1       • **The Company's efforts to secure adequate and reasonably-priced long-term**  
2       **resources from the competitive wholesale market to meet these needs.** Mr. Dinkel  
3       (Direct Testimony at 12-13) indicated that APS has monitored market conditions  
4       regarding resource purchases and sales. We understand that APS did not issue a request  
5       for proposals specifically to replace any Four Corners generating capacity. However, in  
6       this specific situation, where a portion of a unit managed by APS unexpectedly became  
7       available due to California law, and because the analyses described below show clear cost  
8       advantages of APS' proposal, additional solicitations to replace portions of the Four  
9       Corners units would not result in lower costs and in less pollution.  
10  
11      • **The reasons why APS believes those efforts have been unsuccessful, either in whole**  
12      **or in part.** Mr. Dinkel's Direct Testimony (pp. 3, 8-10, 11) indicates that APS expects  
13      alternatives to its proposal would be more costly and, if natural gas-fired generation  
14      replaced some Four Corners generation, APS would be exposed to uncertain gas prices.  
15      We agree with APS' conclusion about cost based upon Dr. Berry's cost analysis (Direct  
16      Testimony, at 5-8 and Exhibit DB-3): a competitive solicitation would be unlikely to  
17      result in a lower cost option than APS' proposal under a range of reasonable assumptions.  
18      In addition, because of the amount of time required to conduct a competitive solicitation  
19      at this time and the reality of pending environmental regulation, requiring a competitive  
20      solicitation would not result in a lower cost but could only delay the early retirement of  
21      Units 1-3 and thus would not achieve the immediate environmental benefits of APS'  
22      proposal.  
23  
24  
25

- **The extent to which the request to self-build generation is consistent with any applicable Company resource plans and competitive resource acquisition rules or orders resulting from the workshop/rulemaking proceeding described in paragraph 79.** As noted above, WRA concluded that APS will need additional long-term resources as it retires Four Corners Units 1-3. In addition, the resource planning rules indicate that a load-serving entity may acquire energy and capacity through bilateral contracts with non-affiliated entities (R14-2-705(A)(4)) and that a load-serving entity must use an RFP (request for proposals) process unless, among other reasons, the transaction presents a genuine, unanticipated opportunity to acquire a power supply resource at a clear and significant discount and provide unique value to the entity's customers (R14-2-705(B)(5)). The withdrawal of SCE from Four Corners presents an unexpected and valuable opportunity for APS to retire significant amounts of old coal-fired generation, reduce costs, and improve environmental quality through a bilateral contract. SCE intends to terminate its participation in Units 4 and 5 by July 2016 because it is prohibited from making life-extending financial commitments to coal-fired power plants under California's Emissions Performance Standard. Under these circumstances, APS was presented with an opportunity to retire Units 1-3 and replace them with SCE's share of Units 4 and 5. Staff reviewed the timing of regulatory events in California (Furrey Direct Testimony, at 16-18) and found that the California Public Utilities Commission's final resolution of SCE's compliance with the Emissions Performance Standard did not occur until October 2010. Staff (Furrey Direct Testimony, at 18) concluded that "the proposed acquisition represents an unanticipated opportunity for APS." We agree.

- **The anticipated life-cycle cost of the proposed self-build option in comparison with suitable alternatives available from the competitive market for a comparable period of time.** Both WRA and APS independently concluded that the life-cycle cost of the proposed option is likely to be less than the life-cycle costs of the alternatives.<sup>1</sup> WRA and APS (Berry Direct Testimony, at 7; Dinkel Direct Testimony, at 8-10) both found that the cost advantage of APS' proposal occurs under a range of assumptions. In addition, the time needed to acquire any of the alternatives could delay the retirement of Units 1-3.

The factors described above are intended to provide information to the Commission in support of a request by APS to "self-build." A plain reading of the Settlement Agreement clearly indicates that the factors are not criteria which must be met, but are informational.<sup>2</sup>

The Settlement Agreement also contemplates that APS may present additional information in support of its application to self-build -- Paragraph 75 states that "As part of any APS request for Commission authorization to self-build generation prior to 2015", APS must provide information on several factors. WRA believes that the significant environmental benefits of APS' proposal, described above, are key factors that the Commission should also consider.

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<sup>1</sup> WRA's analysis is of (future) incremental costs and excludes sunk costs such as undepreciated capital investments made previously in APS' existing resources because these sunk costs cannot be "undone." APS' analysis includes recovery of unrecovered sunk costs and hence yields an estimate of revenue requirements.

<sup>2</sup> Further, paragraph 77 of the Settlement Agreement states that the issuance of any RFP or the conduct of any other competitive solicitation in the future shall not, in and of itself, preclude APS from negotiating bilateral agreements with nonaffiliated parties.



1  
2 **V. APS SHOULD MANAGE THE RISKS OF ITS CONTINUED RELIANCE ON**  
3 **COAL-FIRED POWER GENERATION**

4 APS' plan is the least costly option under a range of reasonable assumptions. However,  
5 APS' plan does expose APS to some potentially significant risks (Berry Direct Testimony, pp. 7,  
6 9-10, and Exhibit DB-4). For example, if the costs of complying with future carbon dioxide  
7 emission regulations are moderate or high, then a clean energy portfolio may be the least cost  
8 option. Additionally, there may be other future environmental regulations which impose costs  
9 on APS. Further, coal prices could escalate more quickly than projected.

10 To help manage these risks, WRA has recommended that the Commission should order  
11 APS to:

12 1. Undertake a comprehensive planning process to retire additional coal-fired power  
13 plants within the next 10 years or so and include coal plant retirement options in its resource  
14 plans to be filed after a decision in this docket. The options should include portfolios of clean  
15 energy resources, including large quantities of renewable energy, to replace the retired energy  
16 and capacity. WRA does not have a proposed schedule in mind for additional coal plant  
17 retirements, but will look to the review of APS' 2012 resource plan to help in the development of  
18 a coal plant retirement schedule.

19 2. Evaluate a solar-coal hybrid at Four Corners 4 or 5 or other coal-fired power  
20 plant. The evaluation should be concluded within one year of the Commission's decision in this  
21 docket and APS should then propose to the Commission, either in a separate filing or in the next  
22 scheduled resource plan filing, how it plans to proceed with a coal-solar hybrid facility.

23  
24 In oral testimony, Mr. Dinkel stated that APS would include additional retirements of  
25 coal-fired power plants as options in future resource plans. He also indicated that APS is, in fact,

1 conducting studies of solar hybrid resources and would report on those studies in its Renewable  
2 Energy Standard compliance reports and implementation plans, as appropriate. Therefore, we  
3 recommend that the Commission's order reflect this resolution regarding WRA's  
4 recommendations on risk management.

5 DATED this 30<sup>th</sup> day of September, 2011.

6 ARIZONA CENTER FOR LAW IN  
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14 ORIGINAL and 13 COPIES of  
15 the foregoing filed this 30<sup>th</sup> day  
16 of September, 2011, with:

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22 COPIES of the foregoing  
23 electronically mailed this  
24 30<sup>th</sup> day of September, 2011 to:

25 All Parties of Record

